

Pultruded fiberglass is a highly versatile material that is rapidly displacing steel, aluminum, wood and other plastics as the primary structural component in a variety of applications ranging from consumer products to aerospace. By capitalizing on the inherent strengths of structural fiberglass it is possible to significantly reduce production costs, while providing a final product that exhibits superior performance characteristics and a lower life cycle cost.

Design Flexibility

The Pultrusion process facilitates the production of highly complex cross sections in virtually unlimited lengths. It also makes it easy to achieve specific physical properties of a given application. Design variables effecting the nature and appearance of the final include: percentage of glass roving and mat, resin system, surface veil, UV coating, pigments and additives.

Strength

Load bearing capacity can be tailored to the application by modifying the glass content, fiber orientation and combination of mat and roving reinforcement. On average, structural fiberglass provides 50% higher tensile strength than hot roll steel and possesses greater impact resistance.

Dimensional Stability

Expansion and contraction is 24% less than aluminum and 50% less than hot rolled steel. It can be consistently manufactured to tolerances as high as $\pm .002$ " ensuring easy assembly and greater efficiency in applications such as door jams and window frames.

Thermal Conductivity

Low thermal conductivity reduces or eliminates the need for thermal barriers or insulation and prevents the formation of condensation.

Electrical Conductivity

Structural fiberglass is both non-magnetic and electrically non-conductive. It provides predictable insulation values for greater safety area where electrical hazards are present.

Corrosion Resistance

Structural fiberglass is particularly well suited to highly corrosive environments. It offers extended service life without periodic maintenance and minimizes replacement costs.

Weather Resistance

The material is not subject to rot or oxidation and can be coated to prevent deterioration due to UV exposure.

Flame Retardation

Agent can be added to the resin system to satisfy required safety standards.

Coloration

Structurals can be produced in any color by adding pigments to resin. The color is constant throughout the material. Structural fiberglass may also be painted with any high quality urethane, oil base, acrylic or latex.

Weight

Lighter and less dense than aluminum, structural fiberglass is easy to handle and economical to ship,

EMI/RFI Transparency

Transparent to radio waves, EMI/RFI transmissions, used for radar and antennae enclosures and supports.

Fabrication

Cutting and machining can be performed with a diamond tipped router or abrasive cutting wheel. Component sections may be joined mechanically with bolts, screws and pop rivets, or bonded with two part epoxy.